ASTAKHOV, A.V., gornyy inzhener

Remarks on I.L.Taibisovich's article "On control and measuring instruments in mines". Ugol' 30 no.4:43-44 Ap '55.
(MLRA 8:6)
(Faibisovich, I.L.) (Measuring instruments) (Electric controllers)

IVANOV, Konstantin Ivanovich; MILOSERDIN, Mikhail Mikhaylovich, SHPIL'BERG, Iosif Leybovich; ASTAKHOV, A.V., redaktor; PROZOROVSKAYA, V.L., tekhnicheskiy redaktor.

[The M-32 mechanized screw-jack mine prop for medium thick coal seams.] Mekhanizirovannaia posadochnaia krep' M-32 dlia plastov srednei moshchnosti. Moskva, Ugletekhizdat, 1956. 16 p. (MLRA 9:6)
(Mine timbering)

BORODINO, Leonid Stepanovich; YAGODIN, G.I., otvetstvennyy redaktor; ASTAKHOV, A.V., redaktor izdatel'stva; ANDREYEV, G.G., tekhnicheskiy redaktor

[Mining machinery; a textbook] Gornye mashiny; prakticheskie raboty. Moskva, Ugletekhizdat, 1956. 114 p. (MLRA 9:9)
(Mining machinery)

NEMTSOV, Yevgeniy Il'ich; ZAVOZIN, L.F., otvetstvennyy redaktor; ASTAKHOV, A.V., redaktor izdatel'stva; ALADOVA, Ye.I., tekhnicheskiy redaktor

[The bilge pump operator] Mashinist shakhtnogo vodootliva. Moskva, Ugletekhizdat, 1956. 155 p. (MLRA 9:7)
(Mine pumps) [Microfilm]

MERKULOV, Viktor Yefimovich; ASTAKHOV, A.V., otvetstvennyy redaktor; MADEINSKAYA, A.A., tekhnicheskiy redaktor

[Technical progress in Soviet coal mines] Tekhnicheskii progress na ugol'nykh shakhtakh SSSR. Moskva, Ugletekhizdat, 1957. 32 p. (Coal mining machinery) (MLRA 10:9)

AS IVANOV, K.I.

IVANOV, Konstantin Ivanovich; SHPIL'BERG, Iosif Leybovich; ASTAKHOV, A.V., otvetstvennyy redaktor; NADEINSKAYA, A.A., tekhnicheskiy redaktor

[Metal, hinged, cap set mine supports] Metallicheskie sharnirnye verkhniaki zaboinoi krepi. Moskva, Ugletekhizdat, 1957. 60 p. (MLRA 10:5)

(Mine timbering)

VASILENKO, Stepan Ivanovich; MEZHAKOV, Vasiliy Afanas'yevich; KOTLYARSKIY, Igor' Abramovich; ASTAKHOV, A.V., otv.red.; SHKLYAR, S.Ya., tekhn.red.

["Kirovets" cutter-loader for coal mining] Ugol'nyi kombain "Kirovets." Moskva, Ugletekhizdat, 1958. 52 p. (MIRA 12:7)
(Coal mining machinery)

Astakhov, A.V.

VASILENKO, S.I.; MEZHAKOV, V.A.; AVRAMENKO, I.I.; ASTAKHOV, A.V., otvetstvennyy red.; SILINA, L.A., red.; ALDANOVA, Ye.I., tekhn. red.

["Shakhter-2" coal cutter-loader] Ugol'nyi kombain "Shakhter-2" Moskva, Ugletekhizdat, 1958. 147 p. (MIRA 11:7)
(Coal mining machinery)

MEZHAKOV, Vasiliy Afanas'yevich; VASILENKO, Stepan Ivanovich; ASTAKHOV, A.V., otvetstvennyy red.; ALADOVA, Ye.I., tekhn. red.

[PMG-2 cutting machine] Vrubovaia mashina PMG-2. Moskva, Ugletekh-izdat, 1958. 178 p. (MIRA 11:9)
(Mining machinery)

ASTAKHOV, A.V.

LAKHTIN, V.P.; ASTAKHOV, A.V.

Production of heavy fabrics on AT-100-1 looms. Tekst. prom. 18 no.1:31-33 Ja '58. (MIRA 11:2)

1. Glavnyy inzhener Shuysko-Novinskoy fabriki (for Lakhtin). 2. Nachal'nik tsekha Shuysko-Novinskoy fabriki (for Astakhov).
(Cotton manufacture)

BILYAVETS, Yuriy Vlasovich; ASTAKHOV, A.V., otv.red.; SABITOV, A., tekhn.red.; CHANTSEVA, G.M., tekhn.red.

["Ural-2s" coal cutter-loader] Ugol'nyi kombain "Ural-2c". Moskva, Ugletekhizdat, 1959. 68 p. (MIRA 12:11)
(Coal mining machinery)

ABMORSHEV, Valentin Ivanovich; LOKHANIN, Konstantin Anatol'yevich; ASTAKHOV, A.V., otv.red.; LOMILINA, L.N., tekhn.red.

[PK-3 cutter-loader] Prokhodcheskii kombain PK-3. Moskva, Ugletekhizdat, 1959. 173 p. (MIRA 12:12)
(Coal mining machinery)

BANATOV, Petr Stepanovich; ASTAKHOV, A.V., otv.red.; CHANTSEVA, G.M., tekhn.red.

[Repair of mining machinery] Remont gornykh mashin. Moskva, Ugletekhizdat, 1959. 187 p. (MIRA 12:4)
(Mining machinery--Maintenance and repair)

CHUGUNIKHIN, Sergey Ivanovich; ASTAKHOV, Aleksey Vasil'yevich; SHOKOKHOVA, A.V., otv.red.; LOMILINA, L.N., tekhn.red.

[PK2-1 (PK-2m) cutter-loader for coal mining] Ugleprokhodcheskii kombain PK2-1 (PK-2m). Moskva, Gos.nauchno-tekhn.izd-vo lit-ry po gornomu delu, 1959. 234 p. (MIRA 13:3)
(Coal mining machinery)

SHILOV, Pavel Mikhaylovich, prof., doktor tekhn.nauk; NEMCHENKO, I.M., retsenzent; ASTAKHOV, A.V., otv.red.; KONDRAT'YEVA, M.A., tekhn.red.

[Repair and assembly of mining equipment] Remont i montazh gornogo oborudovaniia. Izd.3., perer. i dop. Moskva, Gos. nauchno-tekhn.izd-vo lit-ry po gornomu delu, 1959. 358 p. (MIRA 13:2)

1. Zaveduyushchiy kafedroy tekhnologii gornogo mashinostroyeniya Moskovskogo gornogo instituta (for Nemchenko).
(Mining machinery--Maintenance and repair)

SHILOV, Pavel Mikhaylovich, prof., doktor tekhn.nauk; ASTAKHOV, A.V., otv.red.; KOROVENKOVA, Z.A., tekhn.red.

[Mining machines and their repair] Shakhtnye mashiny i ikh remont. Izd.3., perer. i dop. Leningrad, Ugletekhizdat, 1959. 406 p. (MIRA 14:1)
(Mining machinery--Maintenance and repair)

SOROKIN, Mikhail Petrovich; ASTAKHOV, A.V., otv.red.; LOMILINA, L.N., tekhn.red.

[Mine ventilation systems] Shakhtnye ventiliatornye ustanovki. Moskva, Gos.nauchno-tekhn.izd-vo lit-ry po gornomu delu, 1960. 143 p. (MIRA 13:5)
(Mine ventilation--Equipment and supplies)
(Electricity in mining)

LAVRESHIN, Boris Yefimovich; ASTAKHOV, A.V., otv.red.; KONDRAT'YEVA, M.A., tekhn.red.

[ShBM-2 drilling combine] Prokhodcheskii kombain ShBM-2. Moskva, Gos.nauchno-tekhn.izd-vo lit-ry po gornomu delu, 1960. 217 p. (MIRA 13:5)
(Boring machinery)

TOPCHIYEV, Aleksey Vasil'yevich; VEDERNIKOV, Viktor Ivanovich; ASTAKHOV, A.V., otv.red.; SABITOV, A., tekhn.red.

[Mining machinery; a handbook] Gornye mashiny; spravochnik. Moskva, Gos.nauchno-tekhn.izd-vo lit-ry po gornomu delu, 1960. 383 p. (MIRA 14:2)

(Mining machinery--Handbooks, manuals, etc.)

ROL'NIK, Mikhail Abramovich; ASTAKHOV, A.V., red.; LOMILINA, L.N., tekhn. red.

[Sparkproof telephone communications systems and apparatus in mines] Iskrobezopasnye sistemy i apparaty shakhtnoi telefonnoi sviazi. Moskva, Gos. nauchno-tekhn. izd-vo lit-ry po gornomu delu, 1961. 54 p. (MIRA 14:8)
(Mines and mineral resources—Communication systems)
(Telephone—Equipment and supplies)

MEZHAKOV, Vasiliy Afanas'yevich; VASILENKO, Stepan Ivanovich; ASTAKHOV, A.V., otv. red.; SHKLYAR, S.Ya., tekhn. red.

["Kirovets" standardized coal cutter-loader] Unifitsirovannyi ugol'nyi kombain "Kirovets." Moskva, Gos. nauchno-tekhn. izd-vo lit-ry po gornomu delu, 1961. 219 p. (MIRA 14:11)
(Coal mining machinery)

ASTAKHOV, A.V., aspirant

Results of studying some parameters of the hydraulic system of the feeding part of the LGD-1 cutter-loader. Nauch. trudy Mosk. inst. radioelek. i gor. elektromekh. no.41:131-137 '62. (MIRA 16:10)

KHORIN, Vladimir Nikitovich, doktor tekhn. nauk, laureat Gosudarstvennoy premii; ASTAKHOV, A.V., otv. red.; MINSKER, L.I., tekhn. red.; PROZOROVSKAYA, V.L., tekhn. red.

[Hydraulic drives for mining equipment; their design and construction] Gidroprivod zaboinogo oborudovaniia; raschet i konstruktsiia. Moskva, Gosgortekhizdat, 1963. 407 p. (MIRA 16:10)

1. Zaveduyushchiy laboratoriyey mekhanizirovannykh krepey Instituta gornogo dela im. A.A.Skochinskogo (for Khorin).
(Mining machinery--Hydraulic drive)

ASTAKHOV, A.V., gornyy inzh.

Stresses on the GPCh-1 safety valve of the LGD cutter-loader.
Ugol' 38 no.11:48-49 N '63. (MIRA 17:9)

ASTAKHOV, A.V.; UTKIN, B.V.

Device for the pressing off of the reductor communicator of ZIU-5 trolleybuses. Rats. predl. na gor. elektrotransp. no.9: 46 '64. (MIRA 18:2)

1. Depo No.2 Tramvayno-trolleybusnogo upravleniya Leningrada.

ASTAKHOV, A.V.

Rate of Brownian coagulation of aerosols in thirteen-moment approximation. Dokl. AN SSSR 161 no.5 1114-1117 p '65. (MIRA 18:5)

1. Fiziko-khimicheskiy institut im. L.Ya.Karpova. Submitted October 23, 1964.

ASTAKHOV, G. A. (Primorskiy sovnarkhoz)

"The Absence of Research Coordination as it affects a local economic Council."

report presented at the Fifth Full Assembly of the Central Administration of the Non-Ferrous Metallurgical Sci.-Tech. Society, Moscow 21-22 Feb 1958.

ASTAKHOV, Georgiy Ivanovich [deceased]; IVANOV, Valentin Pavlovich; SHTEYNGUZ, I.Sh., izh., nauchnyy red.; PAKHOMOVA, M.A., red. izd-va; TOKER, A.M., tekhn.red.

[Plastering] Shtukaturnye raboty. Izd. 3-e, ispr. Moskva, Gos. izd-vo lit-ry po stroit. i arkhit. 1957. 251 p. (MIRA 11:2)
(Plastering)

ASTAKHOV, I.A.

Index of academic dissertations on medical radiology defended from 1960 to 1962. Med. rad. 9 no.6:85-93 Je '64.
(MIRA 18:2)

ASTAKHOV, I.A.

Annotated index of dissertations on medical radiology defended from 1960 to 1962. Med. rad. 9 no.7:74-94 Jl '64.
(MIRA 18:5)

ASTAKHOV, I.A.

Annotated index of dissertations on medical radiology defended in the period 1960-1962. Med. rad. 9 no.8:89 Ag '64. (MIRA 18:4)

ASTAKHOV, I.A.

Abstracts of dissertations on medical radiography defended in 1960-1962. Med. rad. 9 no.11:91-94 N '64. (MIRA 18:9)

ASTAKHOV, I. G. Cand Tech Sci

Dissertation: "Distribution of Pressure During Cold Rolling."

1/6/50

Moscow Order of the Labor Red Banner Inst of Steel imeni I. V. Stalin

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Sum 71

ASTAKHOV, I. G.

5704 Distribution of Pressure Over the Contact Area in Rolling. I. G. Astakhov. *Henry Brutcher Translation* no. 2906, 6 p. (Sbornik Nauchnykh Trudov *Moskovskogo Instituta Stali im. I. V. Stalina*, Symposium no. 30 on "Structure and Properties of Steel", 1951, p 147-180.) Henry Brutcher, Altadena, Calif.

Contact pressure variations on metal strips of different widths, influence of amount of cold reduction on distribution in direction of rolling; effect of rolling speed and lubricant on character and magnitude of pressure between strip and rolls. Graphs, table, 3 ref.

SEVERDENKO, V.P., professor, doktor; ASTAKHOV, I.G., dotsent, kandidat tekhnicheskikh nauk.

Resistance to deformation in hot rolling of thin steel strips. Sbor. Inst.stali no.31:212 '53. (MLRA 9:9)
(Rolling (Metalwork)) (Deformation (Mechanics))

SEVERDENKO, V.P., prof., doktor tekhn.nauk; ASTAKHOV, I.G., dots., kand.tekhn.nauk

Distribution of unit pressure along the contact surface in rolling circular cross-section rods with smooth rolls. Obr.met.davl. no.3:63-75 '54. (MIRA 12:10)
(Rolling (Metalwork))

SEVERDENKO, V.P., professor, doktor tekhnicheskikh nauk; ASTAKHOV, I.G., dotsent, kandidat tekhnicheskikh nauk.

Widening, forward flow, and specific pressure during cold rolling. Sber.Inst.stali no.33:298-310 '55. (MLRA 9:6)

1. Kafedra prokatki. Predstavlano chlenom-korrespondentom AN SSSR I.M.Pavlovym.

(Rolling (Metalwork))

PROTASOV, Anatoliy Aleksandrovich; ZUYEV, Pavel Petrovich; ASTAKHOV, I.G., redaktor; GOLYATKINA, A.G., redaktor izdatel'stva; BERLOV, A.P., tekhnicheskiy redaktor

[Grooving of rollers for high-speed steel rolling] Kalibrovka valkov dlia prokatki bystorezhushchey stali. Moskva, Gos. nauchno-tekhn. izd-vo lit-ry po chernoi i tsvetnoi metallurgii, 1956. 176 p. (MLRA 9:10)
(Rolls (Iron mills))

SOV/137-57-11-21291

Translation from: Referativnyy zhurnal, Metallurgiya, 1957, Nr 11, p 95 (USSR)

AUTHORS: Polukhin, P.I., Astakhov, I.G.

TITLE: Special Features of Rolling and Grooving for Lightened and Thin-walled Beams (Osobennosti prokatki i kalibrovki oblegchennykh i tonkostennykh balok)

PERIODICAL: V sb.: Ratsionalizatsiya profiley prokata. Moscow, Profizdat, 1956, pp 126-151

ABSTRACT: An examination is made of the grooving and temperature conditions for the rolling (R) of lightened beams (LB), and of the elastic deformation of the mill in the R thereof. In order to prevent rapid drop in strip temperature, LB are R on existing mills with larger reduction ratios and drafts than in the R of standard beams of the same sizes. The conditions of deformation in the flange passes (P) depend upon the slope of the inside edges of the flanges. Analysis of the forces shows that as the slope of the inside flange edges diminishes, resistance in a closed P rises more rapidly than in an open one. From this it follows that in designating the reduction of the flanges, the chief work in thinning them out is assigned to open P. In

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Special Features of Rolling and Grooving (cont.)

developing a new assortment of LB with thinner webs and flanges, no significant decrease in the slope of the inner edges of the flanges should be made, since this would create significant difficulties in the R process and impair the fundamental engineering and economic performance indices of LB production. The roll grooving for R of Nr-24 LB at the Nizhniy Tagil Plant and of Nr-36 LB at the Azovstal' Plant is presented. In the rolling of both lightened and normal B, diagonal grooving of the rolls is to be recommended. This has a number of advantages over the usual kind. Work to test the new method of B rolling, with dual-collar roughing grooves, has been done in coperation with the Yenakiyevo Plant. Reduction (crushing) of the central thickening of the web may be done either in closed grooves without significant spread, or in open ones with forced spread. The utilization of dual-collar slitting grooves makes it possible to increase the draft ratio per pass and considerably to reduce the total number of passes in the rolling of beams.

B.Ye.

ASTAKHOV, I. G.

PHASE I BOOK EXPLOITATION 601

Parlov, Igor Mikhaylovich, Gallay, Yakov Samuilovich, and Astakhov, Ivan Gerasimovich

Rukovodstvo k uchebnomu laboratornomu praktikumu po prokatke (Manual for a Laboratory Course in Rolling-Mill Processes) 2d ed., rev. Moscow, Metallurgizdat, 1957. 5,000 copies printed.

Ed.: Golyatkina, A. G.; Tech. Ed.: Attopovich, M. K.

PURPOSE: The book is intended for students of metallurgical vuzes and for students in other fields taking a laboratory course in "Metal Working by Pressure".

COVERAGE: The book discusses the methods of conducting a laboratory course in metal rolling and roll-design (except pre-rolling). Basic theoretical information is given and necessary measuring devices and instruments are described. The work assignments in this manual are coordinated with the following text books:

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Manual for a Laboratory (Cont.)

1. Pavlov, Ig. M. The Theory of Rolling and Fundamentals of Plastic Deformation, 2nd edition, Metallurgizdat, 1938.

2. Pavlov, Ig. M. - The Theory of Rolling (General Principles of Metal Morning by pressure), Metallurgizdat, 1950.

3. Bakhtinov, B. P. and Shternov, M. M., Pass Design on Mill Rolls. Metallurgizdat 1953. There are no references.

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Manual for a Laboratory (Cont.)

Manual for a Laboratory (Cont.)

Manual for a Laboratory (Cont.)

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137-58-4-7007

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 4, p 101 (USSR)

AUTHORS: Polukhin, P. I., Astakhov, I. G.

TITLE: Rolling a Light-weight Type of Beam (Prokatka balok oblegchennogo tipa)

PERIODICAL: Sb. Mosk. in-t stali, 1957, Vol 36, pp 354-370

ABSTRACT: Analysis of passes for rolling standard H-beams serves as the basis for development of grooving for rolling light-weight beams (LB) Nrs 24, 30, 36 and 55. The rolling of LB was done at the rail-and-beam mills of the Novo-Tagil'skiy Yenakiyevo Plants and at the Azovstal' Plant. In view of the fact that temperature conditions during the rolling play a major role in the rolling of beams, temperature measurements were taken during the rolling of LB. The results obtained indicate that modern rail-and-beam mills make it possible to roll LB in the same number of passes as with ordinary beams, without any danger of excessively reduced temperature in the strip at the end of the rolling process. The measurement of elastic deformation of the finishing stand showed that, if the proper temperature regime is maintained and a steady rolling sequence is sustained, the degree of elastic deformation does not impair the rolling of LB. Yu. F.

Card 1/1

1. Rolling mills 2. Beams--Rolling--Temperature factors

POLUKHIN, P.I., doktor tekhn.nauk; ASTAKHOV, I.G., kand.tekhn.nauk;
SOLOV'YEV, A.I., inzh.; FOMENKO, Yu.Ye., inzh.

Investigating the continuous rolling process of angle steel.
Sbor.Inst.stali no.39:132-152 '60. (MIRA 13:7)

1. Kafedra prokatki Moskovskogo ordena Trudovogo Krasnogo
Znameni instituta stali im. I.V.Stalina.
(Rolling(Metalwork))

SEVERDENKO, V.P., doktor tekhn.nauk; ASTAKHOV, I.G., kand.tekhn.nauk

Use of radioactive isotopes to study certain phenomena occurring during the plastic deformation of steel. Sbor.Inst. stali no.39:153-160 '60. (MIRA 13:7)

1. Kafedra prokatki Moskovskogo ordena Trudovogo Krasnogo Znameni instituta stali im. I.V.Stalina.
(Deformations(Mechanics))
(Radioisotopes--Industrial applications)

PHASE I BOOK EXPLOITATION SOV/4782

Moscow. Institut stali

Proizvodstvo i obrabotka stali i splavov (Production and Treatment of Steel and Alloys) Moscow, Metallurgizdat, 1960. 462 p. (Series: Its: Sbornik, 39) 2,100 copies printed.

Ed.: Ye. A. Borko; Ed. of Publishing House: S. L. Zinger; Tech. Ed.: M. K. Kleyman; Editorial Council of the Institute: M. A. Glinkov, Professor, Doctor of Technical Sciences; R. N. Grigorash, Docent, Candidate of Technical Sciences; V. P. Yelyutin, Professor, Doctor of Technical Sciences; A. A. Zhukhovitskiy, Professor, Doctor of Chemical Sciences; I. N. Kidin, Professor, Doctor of Technical Sciences; B. G. Livshits, Professor, Doctor of Technical Sciences; A. P. Lyubimov, Professor, Doctor of Technical Sciences; I. M. Pavlov, Corresponding Member, Academy of Sciences USSR; and A. N. Pokhvisnev, Professor, Doctor of Technical Sciences.

PURPOSE: This book is intended for technical personnel in industry, scientific institutions and schools of higher education, dealing with open-hearth and electric-furnace steelmaking, metal rolling, physical metallurgy, metallography, and heat treatment. It may

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also be used by students specializing in these fields.

COVERAGE: The book contains results of theoretical and experimental investigations of metallurgical and heat-engineering processes in open-hearth and electric furnaces. Data are included on the following: desulfurizing of pig iron outside the blast furnace, interaction of oxides of the carbide-forming metals with solid carbon, the change of content of gases in the bath of the open-hearth furnace in various periods of melting, intensification of the electric melting of steel, etc. Other articles deal with the nonuniformity of deformation in rolling, the study of the continuous rolling process, the dependence of the friction—slippage coefficients in rolling on a number of factors, and other problems in the pressworking of metals. Articles on physical metallurgy and the theoretical principles and techniques of the heat treatment of steel are also included. No personalities are mentioned. References accompany most of the articles. There are 207 references, both Soviet and non-Soviet.

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Card 5/10

POBEDIN, Ivan Sergeyevich; DROZD, Vladimir Grigor'yevich. Prinimali uchastiye: FEDIN, V.P., inzh.; KALININ, V.P., kand. tekhn. nauk; ASTAKHOV, I.G., red.; BRINZA, V.N., red.izd-va; ISLENT'YEVA, P.G., tekhn. red.

[Production of merchant shapes] Proizvodstvo sortovoi stali. Moskva, Gos.nauchno-tekhn.izd-vo lit-ry po chernoi i tsvetnoi metallurgii, 1962. 248 p. (MIRA 15:1)
(Rolling (Metalwork))

POLUKHIN, P. I., prof., doktor tekhn. nauk; ASTAKHOV, I. G., kand. tekhn. nauk

Calibration of I-beams. Sbor. Inst. stali i splav. no.40: 25-43 '62. (MIRA 16:1)

(Rolling(Metalwork))

ASTAKHOV, I. G., kand. tekhn. nauk

Box-system grooving of blooming mill rolls. Sbor. Inst. stali i splav. no.40:44-55 '62. (MIRA 16:1)

(Rolls(Iron mills))

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S/848/62/000/040/001/005
E191/E481

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AUTHORS: Fedosov, N.M., Professor; Astakhov, I.G. and Krupin, A.V., Candidates of Technical Sciences; Arkhangel'skaya, K.Yu., Arkhangel'skiy, A.V., Yelin, I.I., Kontsevaya, Ye.M., Engineers

TITLE: Investigation of the specific pressure in the cold rolling of high alloy steel

SOURCE: Moscow. Institut stali i splavov. Sbornik. no.40, 1962. Protsessy prokatki. 107-129

TEXT: Investigations are reported on the effect of lubrication, initial thickness of the sheet, number of passes and reduction factor upon the specific pressure in the cold rolling of stainless steels 1Х21Н5Т (ЭИ811) [1Kh21N5T (EI811)] and 1Х18Н2Г5Н (ЭП26) [1Kh18N2G5N (EP26)]. The former belongs to the ferritic-austenitic class, is a substitute for 1Х18Н9Т (ЭЯ1Т) [1Kh18N9T (EYa1T)] stainless steel and contains 0.1 to 0.16% C, 0.8% Si, 0.4 to 0.8% Mn, 22 to 20% Cr, 4.5 to 5.8% Ni, 0.7% Ti, 0.03% S and 0.035% P. Heat treatment is not required after welding. The steel possesses increased strength combined with adequate ductility and weldability. 1Kh18N2G5N steel contains

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Investigation of the specific ...

0.09% C, 0.45% Si, 4.93% Mn, 18.85% Cr, 2.08% Ni, 0.19% Ti, 0.012% S, 0.03% P, 0.19% N, and belongs to the stainless steels of the transition class with unstable austenite, which after cold rolling and sub-zero treatment partially disintegrates, forming martensite. The rolling was carried out in the four-high laboratory mill having 180 mm diameter cylindrical working rolls and 360 mm diameter back-up rolls. The surface speed of the working rolls was 0.565 m/sec. Universal load cells with strain gauge elements measured the pressure on the rolls. The strain gauges connected in compensating bridges had their signals electronically amplified and recorded by electromagnetic oscillographs. The specific pressure was computed from the measured load. The effect of the reduction factor on the tensile strength and elongation and on the magnetization at saturation was examined for the two steels investigated and the steel they replace. The behaviour of all three is similar. The differences in mechanical properties are discussed in detail. The low nickel steel reaches magnetizations up to 13000 gauss after reductions of 30% and over. The effect of the initial thickness of the hot

strip, in the range between 0.5 and 2.0 mm and reduction factors between 10 and 50%, on the specific pressure was examined, showing a consistent reduction as the initial thickness increases. Lubrication with machine oil and castor oil has a substantial effect on the cold rolling pressure, the latter giving consistently lower values. Both steels behave similarly. The effect of splitting up the total reduction between different passes is shown in graphs plotted from numerous measurements. The effect is shown to be very small for both steels investigated throughout the range of strip thicknesses, reduction factors and lubricating oils examined. There are 14 figures and 4 tables.

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11300

AUTHORS: Krupin, A.V., Astakhov, I.G., Candidates of Technical Sciences; Artem'yev, A.V., Masterov, V.A., Kontsevaya, Ye.M., Engineers

TITLE: Warm rolling of ЭИ100 (EI100) stainless steel

SOURCE: Moscow. Institut stali i splavov. Sbornik. no.40, 1962. Protsessy prokatki. 138-151

TEXT: Rolling at a temperature intermediate between room and hot rolling temperatures (warm rolling) was examined with special reference to the effects of the number of passes, reduction factor and initial strip thickness as applied to ЭИ100 (Х13Н4Г9) [EI100 (Kh13N4G9)] steel, which belongs to the austenitic-martensitic class. For comparison, the cold rolling behaviour of the same steel was also examined. To determine the optimum temperature range, specimens were also tested in a tensile machine at temperatures between 20 and 400°C. A four-high laboratory mill with working rolls of 180 and back-up rolls of 360 mm diameter and a working length of roll of 800 mm was used operating at a surface speed of 0.5 m/sec. Sheets of 2 x 45 x 250 mm were furnace heated slightly above the test temperature, measured by a

Warm rolling ...

thermocouple feeder. The rolling pressure was measured with universal load cells and automatically recorded. The temperature range for minimum rolling pressure coincides with that of the minimum tensile strength and extends from 130 to 310°C. The lower limit is preferable under shop conditions. Rolling from various thicknesses in a single pass and split into 10% passes has shown that warm rolling in several passes can increase the reduction by 15% compared with the maximum in cold rolling without intermediate anneal. The specific rolling pressure diminishes with increasing initial sheet thickness. Examinations of the metallographic structure, the hardness and the magnetic saturation flux density have shown that much less martensite forms in warm rolling and the cold work effect is substantially reduced. There are 12 figures.

Card 2/2

KRUPIN, A.V.; ASTAKHOV, I.G.; [illegible], V.A.; ARTEM'YEV, A.V.

Measuring and recording temperatures during warm rolling.
Izv. vys. ucheb. zav.; chern. met. 6 no.3:132-134 '63.
(MIRA 16:4)

1. Moskovskiy institut stali i splavov.
(Rolling (Metalwork)) (Thermocouples)

L 11072-63 EWP(q)/EWT(m)/BDS--AFFTC/ASD--JD

ACCESSION NR: AP3001377 S/0148/63/000/005/0129/0135

AUTHOR: Astakhov, I. G.; Krupin, A. V.; Fedosov, N. M.; Shilkov, V. B.; Pustovalov, U. V.; Kontsevaya, Ye. M.

TITLE: Specific pressure during cold rolling of alloy E1602 and steel E1962

SOURCE: IVUZ. Chernaya metallurgiya, no. 5, 1963, 129-135

TOPIC TAGS: cold rolling, austenite (E1602), martensite (E1962), deformation, gage of flat product, lubrication characteristics, hardening temperature, [illegible]ging, yield strength, relative elongation

ABSTRACT: The change in specific pressure of austenite (E1602) and martensite (E1962) steel during cold rolling are examined as a function of deformation, gage of flat product, and lubrication characteristics. The influence of hardening temperature on cogging characteristics are studied at various specific pressures, and as a function of yield strength and relative elongation. Traditional rolling production practice and theory was confirmed quantitatively in measurements of change of specific pressure during cold rolling in relation to gage of flat product. Orig. art. has: 2 tables, 7 figures, and 4 references.

Moscow Inst. of Steel and Alloys

Card 1/2

AUTHORS: Trapeznikov, A. A., Shchegolev, G. G., SOV/48-23-6-27/28
Astakhov, I. I.

TITLE: An Electron-microscopical Investigation of the Influence of the Conditions of the Preparation of the Consistent Lithium Grease on Their Microstructure (Elektronnomikroskopicheskoye issledovaniye vliyaniya usloviy prigotovleniya litiyevoy konsistentnoy smazki na yeye mikrostrukturu)

PERIODICAL: Izvestiya Akademii nauk SSSR. Seriya fizicheskaya, 1959, Vol 23, Nr 6, pp 777-779 (USSR)

ABSTRACT: In the introduction to the present paper the increasing importance of consistent lithium lubricants is pointed out and it is shown that their properties depend on the nature of cooling. In the first part of the paper the material and the methods of the investigation are described and the dependence of the solid state of a 10 % isotropic solution of stearate of lithium in medical vaseline on the nature of the two-stage cooling is shown in a diagram (Fig 1). The curve has marked maxima and minima. As shown by electron-optical investigation, also the shape and size of the fiber-structure of the solution is connected with this phenomenon. Figure 3 gives

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An Electron-microscopical Investigation of the Influence of the Conditions of the Preparation of the Consistent Lithium Grease on Their Microstructure SOV/48-23-6-27/28

nine examples of this kind; cooling methods are discussed. The solution is cooled from 230° C to a certain temperature within the range of between 230 and 0°, where this temperature is maintained for 30 minutes, after which cooling is continued. In the last part of the paper the influence of impurities upon the fiber structure is investigated. As impurity, $1.8 \cdot 10^{-2}$ mol nonylic acid was admixed per mol stearate. Figure 3 shows the effect produced by this admixture upon the fiber structure. There are 3 figures and 7 references, 3 of which are Soviet.

ASSOCIATION: Institut fizicheskoy khimii Akademii nauk SSSR (Institute for Physical Chemistry of the Academy of Sciences, USSR)
Institut elektrokhimii Akademii nauk SSSR (Institute for Electrochemistry of the Academy of Sciences, USSR)

Card 2/2

5 (1,2)

AUTHORS: Astakhov, I. I., Kiseleva, I. G., Kabanov, B. N. SOV/20-126-5-35/69

TITLE: The Polymorphism of Lead Dioxide and the Structure of the Electrolytic Deposits (Polimorfizm dvuokisi svintsa i stroyeniye elektroliticheskikh osadkov)

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 126, Nr 5, pp 1041 - 1043 (USSR)

ABSTRACT: According to various publication references, there are 2 different crystalline PbO_2-modifications: a) a rhombic (α), and b) a tetragonal (β) modification which have different mechanical and physical properties. As is known, α-PbO_2 has a slightly higher density (Ref 1). Also the hardness of the α-modification is higher (Ref 2). The deposit of the α-PbO_2 is said to be more compact (Ref 3). It is known that the mechanical and physical properties of the deposits depend on their structure (Ref 4). Publication references on this subject are very poor. The authors investigated these deposits for gold under the electron microscope (magnification 11,000). (The electrochemi-

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cal preparation of the deposits was made by P. I. Tyaglova). Figure 1 shows a deposit of the rhombic PbO_2-modification which really forms more compact deposits. The looser deposits of the tetragonal modification are shown in figure 2. The authors put forward analogies among other chemical compounds (Ref 5) and discuss the presumable causes of the phenomenon in question (Refs 1, 6). The authors think it correct to explain the formation of different PbO_2-modifications not by the origin of 2 different complexes in the solution, but by the adsorption phenomena on the surface of the growing crystals. Figure 3a shows a microphotograph of the PbO_2-deposit produced by oxidation of the lead sulphate in 0.01 n H_2SO_4. It is very similar to the one from a neutral solution (Fig 1). α-PbO_2 can be obtained by reducing the adsorption of the H_2SO_4. This is possible by the admixture of $CoSO_4$ (Ref 8) (Fig 3b). The α-PbO_2-deposits represented in figure 3 are contradictory to the opinion

(Refs 1,6) that only the β-PbO_2-modification can be obtained by $PbSO_4$-oxidation. The different strength of the deposits of the two modifications is practically of great interest (e.g. for the massive electrodes in hydrometallurgy). Finally, the strength of the positive plates in a lead accumulator is discussed. Barium sulphate destroys the solid structure of the lead dioxide (comparison between figures 3a and 4a). There are 4 figures and 9 references, 5 of which are Soviet.

ASSOCIATION: Institut elektrokhimii Akademii nauk SSSR (Institute of Electrochemistry of the Academy of Sciences, USSR)

PRESENTED: March 21, 1959, by A. N. Frumkin, Academician

SUBMITTED: March 25, 1959

OSHE, A.I.; ASTAKHOV, I.I.; NIKITINA, Z.Ya.; REZNIK, I.F.; BAGOTSKIY, V.S.

Change of the structure of a negative electrode in a silver-zinc storage cell in operation. Zhur.prikl.khim. 34 no.10:2254-2260 O '61. (MIRA 14:11)

1. Institut elektrokhimii AN SSSR i Vsesoyuznyy nauchno-issledovatel'skiy institut istochnikov toka.
(Electrodes)

KABANOV, B.N.; LEYKIS, D.I.; KISELEVA, I.G.; ASTAKHOV, I.I.; ALEKSANDROVA, D.P.

Cathodic introduction of alkali metals into electrodes in aqueous solutions. Dokl. AN SSSR 144 no.5:1085-1088 Je '62. (MIRA 15:6)

1. Institut elektrokhimii AN SSSR. Predstavleno akademikom A.N.Frumkinym.
(Intermetallic compounds) (Electrochemistry)

LUK'YANYCHEV, Yu.A.; NIKOLAYEV, N.S.; ASTAKHOV, I.I.; LUK'YANYCHEVA, V.I.

Mechanism of copper fluorination at high temperatures. Dokl. AN SSSR 147 no.5:1130-1132 D '62. (MIRA 16:2)

1. Institut obshchey i neorganicheskoy khimii im. N.S. Kurnakova AN SSSR. Predstavleno akademikom I.P. Tananayevym.
(Copper) (Fluorination)

ACCESSION NR: AP4019981 S/0020/64/154/006/1414/1416

AUTHORS: Astakhov, I.I.; Vaysberg, E.S.; Kabanov, B.N.

TITLE: Anodic corrosion of lead in sulfuric acid

SOURCE: AN SSSR. Doklady*, v. 154, no. 6, 1964, 1414-1416

TOPIC TAGS: lead oxidation, anodic lead oxidation, lead containing sulfuric acid, sulfuric acid, lead, COSO sub 9, Na sub 2 SO sub 4

ABSTRACT: While there are a number of articles on anodic oxidation of lead in sulfuric acid, and on the composition and structure of anodic films, there is a lack of data on the mechanics of their formation. The present work explains the growth of anodic films combining electrochemical and structural methods of investigation. For this purpose, films were studied which were formed on smooth lead electrodes with anodic polarization (current 2 ma/cm^2) for 3, 24 and 48 hours. The bath consisted of 2,8 N and 10.4 N H_2SO_4 solutions at 25 and 65C. In one case $CoSO_4$ was added. Corrosion products were determined by cathodic reduction in 1 N Na_2SO_4 solution. According to the results, anodic oxidation of lead in strong

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ACCESSION NR: AP4019981

solutions of sulfuric acid does not proceed at the pore bases and in micro-cracks of the dioxide film but rather by the lead interaction with oxygen diffusing through the oxide film and forming PbO_t, PbO_x and $-PbO_2$. Formation of the latter as a result of lengthy anodic oxidation of lead is a secondary process. Apparently, $CoSO_4$ slows down the primary penetration of oxygen into the crystal lattice of lead and increases its passivation.

ASSOCIATION: Institut elektrokhimii AN SSSR (Electrochemical Institute AN SSSR); Podol'skiy filial nauchno issledovatel'skogo institute akkumulyatornoy promyshlennosti (Podolsk Branch of the Scientific Research Institute for the Battery Industry)

SUBMITTED: 050ct63 DATE ACQ: 23Mar64 ENCL: 00

SUB CODE: Gc NR REF SOV: 007 OTHER: 011

Card 2/2

SHCHEGOLEV, G.G.; TRAPEZNIKOV, A.A.; ASTAKHOV, I.I.

Colloidal and chemical characteristics and microstructure of lithium lubricating greases. Khim. i tekh. topl. i masel 10 no.8:48-55 Ag '65. (MIRA 18:9)

1. Institut fizicheskoy khimii AN SSSR.

L 44806-65 EWT(m)/EPF(c)/EPR/EWP(t)/EWP(z)/EWP(b) Pr-4/Ps-4/Pad IJP(c)
JW/JD/EW

ACCESSION NR: AP5012446 UR/0062/65/000/004/0588/0593

AUTHOR: Luk'yanychev, Yu. A.; Astakhov, I. I.; Nikolayev, N. S.

TITLE: Formation and properties of the fluoride films on nickel

SOURCE: AN SSSR. Izvestiya. Seriya khimicheskaya, no. 4, 1965, 588-593, and insert facing p. 587

TOPIC TAGS: nickel fluoride film, film formation, diffusion coating, dielectric film

ABSTRACT: A study has been made of the mechanism of formation, the phase composition, crystal structure, and thickness of nickel fluoride films formed on a smooth nickel surface at 540—810C, and of the chemical and thermal stability and dielectric strength of the films. This study was prompted by the present use of nickel and its alloys as structural materials in the nuclear power industry and the suggested application of the fluoride films on nickel as electric insulating material. It was shown in an earlier study that films of copper fluoride formed on copper at 300C exhibited good electric insulating properties, but films formed at higher temperature were brittle. Thin (0.3—8 μ) films were formed on pure (99.94%) nickel plates heated in a reactor to a given temperature and then exposed to

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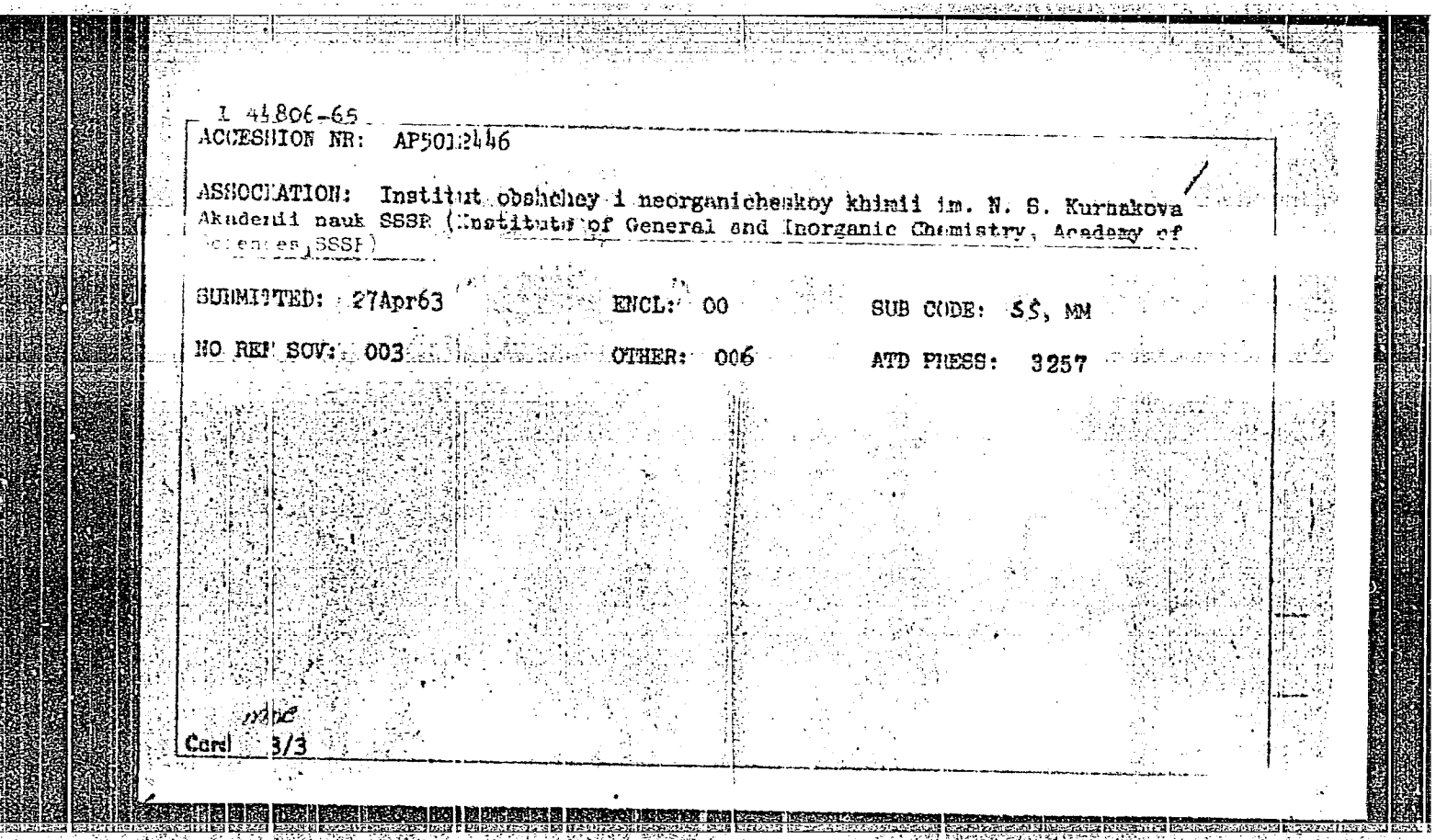
fluorine at atmospheric pressure. The kinetics of the reaction were studied gravimetrically. A diffusion of nickel and fluorine ions through the film was found to be the process determining the reaction rate. The plot of temperature versus the logarithm of the reaction rate constant was linear but had two different slopes corresponding to different values of activation energy: 59 kcal/m in the 540—600C range, and 18.5 kcal/m in the 720—810C range. X-ray diffraction patterns of the fluoride films indicated that only one phase, NiF_2, was formed over the entire temperature range, but electron micrographs showed a change in crystal structure which occured in the films formed at 660C, i.e., corresponding to the change in activation energy. Dielectric strength of the films at room temperature increased with increasing thickness, but in films of equal thickness it decreased with increasing temperature of formation of the film. Therefore, dielectric strength, as measured by the breakdown voltage, was highest in the films formed at 540—600C because up to 650C diffusion is limited to fluorine anions and the energy of activation is high due to a fine, compact crystalline structure of the film. Utilization of the NiF_2 films as dielectrics is limited to 410C because of hydrolysis in moist air. Orig. art. has: 6 figures and 1 table.

[JK]



L 41806-65
ACCESSION NR: AP5012446

ASSOCIATION: Institut obshchey i neorganicheskoy khimii im. N. S. Kurnakova Akademii nauk SSSR (Institute of General and Inorganic Chemistry, Academy of Sciences, SSSR)

SUBMITTED: 27Apr63 ENCL: 00 SUB CODE: SS, MM

NO REF SOV: 003 OTHER: 006 ATD PRESS: 3257

Card 3/3

L 8307-66 EWT(1)/EWT(m)/ETC/EWG(m)/T/EWA(m)-2

ACCESSION NR: AP5022143 UR/0364/65/001/009/1023/1028
541.13

AUTHOR: Kabanov, B. N.; Kiseleva, I.G.; Astakhov, I.I.; Tomashova, N.N.

TITLE: Overvoltage and mechanism of cathode intrusion of alkali metals into solid electrodes

SOURCE: Elektrokhimiya, v. 1, no. 9, 1965, 1023-1028

TOPIC TAGS: alkali metal, cation, intermetallic compound, electrode

ABSTRACT: The discharge of cations of alkali metals, accompanied by the formation of intermetallic compounds according to the reaction $B^+ + e + mMe = BMe_m$ (where Me are Ag, Cd, Al, Zn, or Pb, and B^+ are the ions of alkali metals), was studied recently and called the cathode intrusion of alkali metals into electrodes. The dependence of the rate of this reaction on the potential and structure of electrode material was studied to determine the mechanism of intrusion. The information on the reaction rate was obtained from data on the increase with time of the hydrogen overvoltage. The measurements were made in the 1 and 10 N NaOH electrolyte on pure lead or on the lead and sodium compound produced preliminarily by electrolysis or melting. The hydrogen overvoltage on the lead electrode in the 1 N NaOH

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electrolyte reached the maximum possible value after cathode polarization for 30-60 minutes. The rate of intrusion, because of a rapid liberation of hydrogen, could not be determined directly, and was calculated by extrapolation. The average density of alkaline metal intrusion into pure lead was thus determined as $i_0=10^{-10}$ amp /sq cm at $\varphi=-1.3$ v. The reaction rate was measured directly on the lead-sodium electrodes (3.5 - 10% Na): $i_0=10^{-3}$ amp /sq cm at $\varphi=-1.3$ v. This large difference in the values of i_0 in pure lead and in lead-sodium electrodes was caused by the fact that the intrusion rate increased with the increased number of vacancies in the metal lattice near the surface of electrodes. The equilibrium vacancies, generated on the surface of the metallic electrode or diffused from its depth, could provide only for a very small intrusion rate of 10^{-10} amp/sq cm. The larger intrusion rates occured only in the presence of a large number of vacancies in excess of the equilibrium concentration of vacancies. The number of vacancies was large in an alloy structure or in the presence of a large number of defects in the structure of the electrode metal. Changing only the conditions of the electrode surface (adsorption of Ar, Hg, and Te on the electrode surface, polishing or etching of the electrode) had little effect on the intrusion rate. Orig. art. has: 6 figure and 1 formula.

L 8307-66

ACCESSION NR: AP5022143

ASSOCIATION: Institut elektrokhimii Akademii nauk SSSR (Institute of Electrochemistry, Academy of Sciences SSSR)

SUBMITTED: 21Nov64/—Sep65 ENCL: 00 SUB CODE: MM, NP

NO REF SOV: 001 OTHER: 002

Card 3/3

L 14720-66 EWT(m)/T DJ

ACC NR: AP6004199 (A) SOURCE CODE: UR/0069/66/028/001/0146/0150

AUTHORS: Shchegolev, G. G.; Trapeznikov, A. A.; Astakhov, I. I.

ORG: Moscow Institute for Physical Chemistry, AN SSSR (Institut fizicheskoy khimii AN SSSR)

TITLE: The influence of organic compound additives on the properties and microstructure of lithium lubricating grease model

SOURCE: Kolloidnyy zhurnal, v. 28, no. 1, 1966, 146-150

TOPIC TAGS: lithium compound, organic lubricant, organometallic lubricant, lubricant additive, lubricant property

ABSTRACT: To extend the previously published work of A. A. Trapeznikov and G. G. Shchegolev (Kolloidn. zh., 24, 104, 1962), the effect of organic additives on the stability, synergetic properties, and microstructure of lithium lubricating grease was studied. Electron-microscope photographs of the greases are presented. The dependence of the structure strength limit (Pr) and compressibility (S) of the greases as a function of the concentration of the additives (fatty acid with 6 to 18 carbon atoms in the chain, lithium oleate, and nonylic alcohol) were studied. The experimental procedure followed is described by G. G. Shchegolev, A. M. Tolmachev, and A. A. Trapeznikov (Zavodsk. laboratoriya 25, 625, 1959). The experimental results are presented in graphs and tables (see Fig. 1).

Card 1/2

UDC: 541.182.025

ACC NR: AP6004199

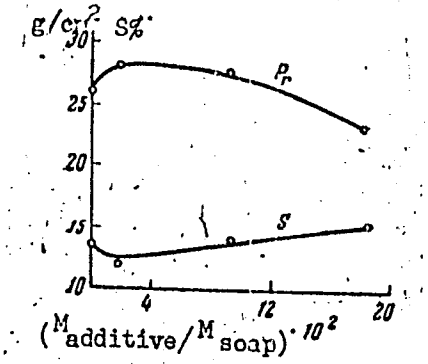

Fig. 1.

Dependence of (Pr) and (S) on the concentration nonyl alcohol additive for rapidly cooled (t_1 = 70C) grease lithium stearate - nonpolar vaseline oil.

It was found that the additives had a strengthening effect on the structure of lithium stearate grease. This effect decreased with increase in the molecular size of the additive. Lithium oleate was found to be the most effective and diphenylamine the least effective additive. From a study of electron-microscope pictures it is concluded that the strengthening effect of the additives is due to a change in the structural elements of the soap. Orig. art. has: 1 table and 4 graphs.

SUB CODE: 11/ SUBM DATE: 08Sep64/ ORIG REF: 007

Card 2/2

KABANOV, B.N.; ASTAKHOV, I.I.; KISELEVA, I.G.

Electrochemical inclusion of alkaline metals. Usp.khim. 34 no.10:1813-1830 O '65. (MIRA 18:11)

1. Institut elektrokhimii AN SSSR.

ACC NR: AP6035591 SOURCE CODE: UR/0364/66/002/011/1343/1345

AUTHOR: Levina, S. D.; Astakhov, I. I.; Lobanova, K. P.; Rotenberg, Z. A.

ORG: Institute of Electrochemistry, Academy of Sciences, SSSR, Moscow (Institut elektrokhimii Akademii nauk SSSR)

TITLE: Crystalline structure of phthalocyanine and the conductivity of systems which consist of metal coated with phthalocyanine film

SOURCE: Elektrokhimiya, v. 2, no. 11, 1966, 1343-1345

TOPIC TAGS: phthalocyanine, crystal structure analysis, cobalt, semiconducting film, nickel

ABSTRACT: The author report that the electrophysical properties of metal powders or polished metals coated with thin phthalocyanine films are being studied at their laboratory. The films are obtained by treating metals with phthalonitrile vapors at temperatures from 250 to 400C. The systems obtained have differing crystalline structure (α and β modifications) and varying semiconducting properties. The purpose of the present study was to investigate the structure of the films and to coordinate the data obtained with the conductivity. Cobalt and nickel were selected as substratum metals. The results obtained indicate that there is no

Card 1/2 UDC: 621.315.592:547

ACC NR: AP6035591

unequivocal relationship between the crystalline modification of both nonmetallic phthalocyanine forms and metal derivatives and the conductivity. Further investigations are being conducted to elucidate the role of other factors necessary besides the type of crystallinity for obtaining either p- or n-type conductivity of phthalocyanine films.

SUB CODE: 07,11 / SUBM DATE: 08Apr66/ ORIG REF: 006/ OTH REF: 006

Card 2/2

L 01012-66 EWT(m)/EPF(c)/T DJ

ACCESSION NR: AP5019984 UR/0065/65/000/008/0048/0055
621.892.5

AUTHOR: Shchegolev, G. G.; Trapeznikov, A. A.; Astakhov, I. I.

TITLE: Colloidal-chemical properties and microstructure of lithium lubricating greases

SOURCE: Khimiya i tekhnologiya topliv i masel, no. 8, 1965, 48-55

TOPIC TAGS: lithium, lubrication, grease, oil/ TsIATIM grease, MVP oil

ABSTRACT: The effect of cooling conditions on structural strength, pressibility, and shape and size of soap particles in lithium lubricating greases was studied. The effect which sedimentation and mechanical wearing of greases have on their properties was also investigated. In two separate series of tests, various isotropic solutions of soap in oil were slowly and rapidly cooled from the boiling state to the t_1 temperature (t_1 = 0°-175°C), held at t_1 for various durations, and then rapidly cooled to 0°C. Commercial TsIATIM-201 grease was compared against two model systems: 1. lithium stearate-partial vaseline oil, and 2. lithium stearate-MVP oil. Dependence of structural strength P_r (in g/cm^2) and pressibility S (in %) on t_1 for

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L 01012-66

ACCESSION NR: AP5019984

the case of rapid cooling is shown in fig. 1 of the Enclosure where curves 1 and 2 are for the lithium stearate-partial vaseline oil system, curves 3 and 4 are for the lithium stearate-MVP oil system, and curves 5 and 6 are for digested TsIATIM-201 grease. Dependence of structural strength (in g/cm^2) and pressibility (in %) on t_1 for the case of slow cooling is shown in fig. 2 of the Enclosure where curves 1 and 2 are for the lithium stearate-partial vaseline oil system, and curves 3 and 4 are for digested TsIATIM-201. The electron-microscopic examination of the grease framework indicate that the dimension and shape of soap particles closely correlate with soap phase transformations and conditions of soap crystallization. The soap phase transformations and conditions of crystallization are reflected in the structural strength and pressibility of the product grease. During sedimentations at various cooling conditions, the soap microstructure is a function of volume of the dispersed phase. It was found that mechanical wearing of greases is reflected in the cross-sectional view of grease particles and aggregates. Orig. art. has: 5 figures, 1 table.

ASSOCIATION: IFKh AN SSSR

SUBMITTED: 00 ENCL: 02 SUB CODE: MT, FP

NO REF SOV: 009 OTHER: 002

Card 2/4

L 01012-66

ACCESSION NR: AP5019984

ENCLOSURE: 01

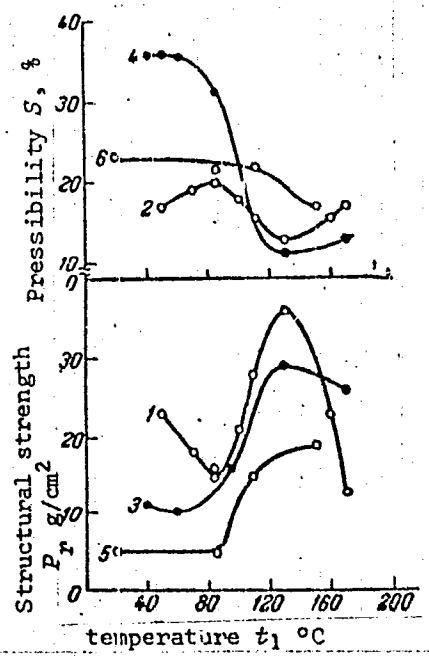

Fig. 1. P_r and S as functions of t_1 for rapidly cooled lubricants: curves 1 and 2--LiSt-partial vaseline oil; curves 3 and 4--LiSt-MVP oil; curves 5 and 6--digested TsIATIM-201 grease.

Card 3/4

L 01012-66

ACCESSION NR: AP5019984

ENCLOSURE: 02

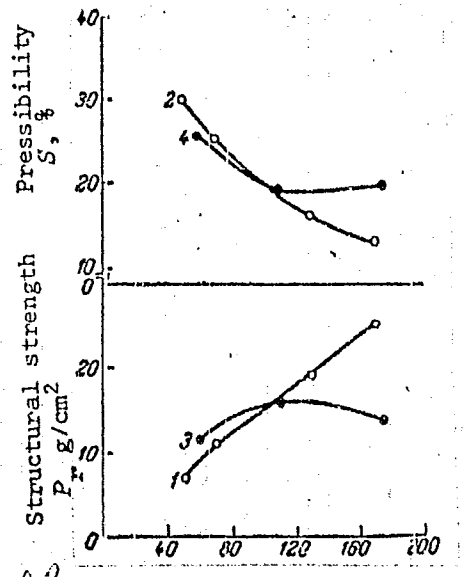

Fig. 2. P_r and S as functions of t_1 for slowly cooled lubricants: curves 1 and 2--LiSt-partial vaseline oil; curves 3 and 4--digested TsIATIM-201 grease.

Card 4/4

ASTAKHOV, I. I.

ASTAKHOV, I. I. - "Certain Clinical Peculiarities of the Vegetative Nervous System in Children in the Presence of Severe Diseases of the Blood System." Leningrad Pediatric Med Inst, Leningrad, 1955
(Dissertation for the Degree of Candidate in Medical Sciences)

SO: Knizhnaya Letopis', No. 33, 1955, pp 85-87

ARTAMKOV, I. I.

Care of pigs in summer quarters and pastures in the northwest nonchernozem belt of the USSR. Moskva, Gos. izd-vo sel'khoz. lit-ry, [illegible]. [illegible].

1. Swine - Russia.

ASTAKHOV, Ivan Ivliyevich, kandidat sel'skokhozyaystvennykh nauk; RUDAKOV, Aleksandr Ivanovich, kandidat sel'skokhozyaystvennykh nauk; GOL'DSHTEYN, S.A., redaktor; CHUNAYEVA, Z.V., tekhnicheskiy redaktor

[Keeping swine in field shelters and pastures] Lagerno-pastbishchnoe soderzhanie svinei v severo-zapadnoi zone nechernozemnoi polosy SSSR. Moskva, Gos. izd-vo selkhoz. lit-ry, 1956. 79 p. (MIRA 9:8)
(Swine--Feeding and feeding stuffs)

ASTAKHOV, I.I., glav. red.; ANSIN, A.N., red.; IVANOV, D.A., red.; KORNILOV, M.F., doktor sel'khoz. nauk, red.; KONYUKHOV, V.N., kand. sel'khoz. nauk, red.; MARKITANTOVA, A.V., uchenyy sekretar', red.; SAPOZHNIKOV, N.A., red.; DMITRIYEV, N.N., red.

[Science in the service of agricultural production; collection of scientific and technical information] Nauka - sel'skokhoziaistvennomu proizvodstvu; sbornik nauchno-tekhnicheskoi informatsii. Leningrad, Lenizdat, 1964. 143 p. (MIRA 17:3)

1. Leningrad. Severo-zapadnyy nauchno-issledovatel'skiy institut sel'skogo khozyaystva.

ASTAKHOV, I.I.

Feed supply in the Northwest. Zemledelie 27 no.9:35-38 S '65.
(MIRA 18:10)

1. Direktor Severo-Zapadnogo nauchno-issledovatel'skogo instituta sel'skogo khozyaystva.

ASTAKHOV, I. V.

ASTAKHOV, I. V. --"Theory of Fuel Injection in Internal-Combustion Engines." Sub 26 Mar 52, Central Inst of Aircraft Engine Building imeni P. I. Baranov (TsIAM). (Dissertation for the Degree of Doctor in Technical Sciences)

SO: Vechernaya Moskva, January December 1952

Astakhov, I. V.

ASTAKHOV, I. V.

Issledovanie sistemy toplivopodachi aviadizelia TURO-207A. Pod red, A. I. Tolstova. Moskva, Oboronmiz, 1943. 14 p., illus. (TSIAM, Trudy, no. 51)

Title tr.: Investigation of the fuel system of the TURO-207A Diesel Engine.

N. F

SO: Aeronautical Sciences and Aviation in the Soviet Union, Library of Congress, 1955.

ASTAKHOV, I. V.

USSR/ Miscellaneous - Fuel systems

Card 1/1 : Pub. 12 - 5/14

Authors : Astakhov, I. V., Dr. of Techn. Sc.

Title : Selection of basic parameters of an engine fuel system

Periodical : Avt. trakt. prom. 3, 10-16, March 1954

Abstract : A method for practical evaluation of the fuel systems of piston engines with compression ignition is presented. The method offers a sufficiently accurate evaluation of the qualitative and quantitative relations between the process of fuel injection and the basic structural parameters of the fuel system and the rpm of the engine shaft. The method can also be applied in the selection and evaluation of parameters of fuel systems for new engines (engines in design stages). Six USSR references (1936-1949). Graphs; drawing.

Institution : ...

Submitted : ...

ASTAKHOV, I.V., doktor tekhnicheskikh nauk.

Fuel feeding law as a factor for increasing the operating reliability and lifetime of high-speed diesel engines. Energomashinostroenie no.8:16-21 Ag '56. (MLRA 9:10)

(Diesel engines)

ASTAKHOV, I.V., doktor tekhnicheskikh nauk.

Graphic analysis method of evaluating the basic parameters of the fuel system and the process of injection of compressorless diesels. Energomashinostroenie 3 no.2:16-20 F '57. (MLRA 10:4)
(Diesel engines)

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AUTHOR: Astakhov, I.V., Doctor of Technical Sciences, Professor

TITLE: The Compressibility of Engine Fuels

PERIODICAL: Energomashinostroyeniye, 1960, No.9, pp.8-11

TEXT: The extensively used unsupercharged diesel engines are intended to use various grades of diesel fuel. Lighter fuels are rarely used in diesels, kerosene only in high speed diesels and gasoline not at all. Because of the large number of diesels in use, the fuel balance is being disturbed and recently attempts have been made to adapt diesels to various grades of light fuel including gasoline. Light grades of fuel differ from heavy mainly in physical properties such as compressibility, specific gravity, viscosity etc. The differences in chemical composition, though slight, influence the combustion process. Of the various physical properties the one that has most influence on processes of fuel delivery and mixture formation is the compressibility of the fuel. Very different figures are quoted for fuel compressibility and the subject requires further study. In general, for liquids of similar general chemical structure the compressibility is related to the specific gravity. The compressibility commonly referred to is the

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mean value which is the ratio of the change of pressure to the product of pressure and volume determined in various kinds of pressure vessel by gradually raising the pressure and measuring the change in volume. However, in fuel systems with mechanical fuel pumps, the true or instantaneous compressibility which is the reciprocal of volume multiplied by the differential coefficient of volume with respect of pressure is of greater practical importance. Experimental conditions similar to those in the fuel injection system can be established if the compressibility is determined indirectly from the velocity of propagation of a pressure wave in the liquid. The equation to determine the rate of pressure wave propagation given in modern methods of designing the injection process is based fundamentally on Zhukovskiy's theory of hydraulic impact, see Eq.(3). The derivation of this formula assumes that the rate of flow of the liquid is small compared with the speed of sound in the liquid and that the coefficient of compressibility is independent of the pressure, i.e. that the compression of the liquid follows Hooke's law. In a modern fuel injection system, the fuel speed ranges from 80 to 100 metres per second and the pressure